DOCUMENT RESUME

ED 206 161 FL 012 410

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TITLE Suggestopedia and Soviet Sleep-Learning.
PUB DATE [81]
NOTE 19p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Audiolingual Skills; Dialogs (Language); French; German; Grammar; Instructional Materials; Intonation; *Learning Processes; Listening; *Memorization; Music; Paired Associate Learning; *Paralinguistics; Reading; Rote Learning; *Second Language Learning; *Teaching Methods; Translation
IDENTIFIERS Hypnopedia; *Soviet Sleep Learning; *Suggestopedia

ABSTRACT

This paper examines the parallels between suggestopedia and Soviet sleep-learning for learning foreign languages. Both systems are based on the idea that the acquisition of information can occur in states below the optimal level of consciousness. Hypnopedia makes use of the period of paradoxical or light sleep that usually occurs just as one is falling into a deep sleep and just before one awakens. The original suggestopedic language class comprised a special two-part relaxation session for memorization of the lesson material at an unconscious level. As initiated in the Soviet Union, sleep-learning was intended to be used in conjunction with regular daytime classes in foreign languages and other academic subjects. Both suggestopedia and Soviet hypnopodia present lesson material in the form of paired associates and utilize repetition, rhythm, and intonation as aids to memorization. Also, both make use of a two-part session for memorization of previously studied materials--active concentration on the text in a state of relaxed alertness and passive absorption of the text in a state of light sleep or in a state bordering on sleep. Finally, both claim that their respective systems have very positive effects on the memory and the well-being of the student. (Author/JK)

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Suggestopedia and Soviet Sleep-Learning

W. Jane Bancroft

According to his original thesis on Suggestology, Dr. Georgi Lozanov and his colleagues at the Institute of Suggestology in Sofia, Bulgaria expressed interest in, and conducted experiments on Soviet-inspired sleep-learning in the late 1960's.[1] Very few details are provided on these experiments and implication is made that sleep-learning did not prove to be as effective as Suggestopedia for the learning of foreign languages. Nonetheless, in spite of Lozanov's written or oral claims that Suggestopedia is quite different from Soviet sleep-learning, an examination of the two systems reveals that there are some very important similarities between them. It is the aim of this paper to examine these parallels.

Both Suggestopedia and Soviet sleep-learning are based on the idea that the acquisition of information can occur in those states which are considered to be below the optimal level of consciousness. Information can be absorbed when we are not fully awake and/or when we are merely paying indirect attention to a learning source. The concept of "sleep-learning" is based on the audio-verbal learning that occurs during reduced conscious awareness--hence the name "hypnopedia," from the Greek hypnos (sleep)

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and paideia (education or teaching). This period of "reduced conscious awareness" corresponds to the period of paradoxical (or light) sleep that usually occurs just as one is falling into a deep sleep after going to bed and just before one awakens in the morning. The original suggestopedic language class comprised a special séance which provided for memorization of the lesson material at an unconscious level. The two-part suggestopedic session took place while the students were 1) in a state of relaxed alertness and 2) in a deeper state (with eyes closed), bordering on sleep. Scientists have discovered that both paradoxical sleep and a relaxed, meditative state are characterized by an increase of alpha waves in the brain.[2] Both the suggestopedic day-time session and the hypnopedic night-time session promote the unconscious assimilation of lesson materials while the students are in an "alpha" state.

As initiated and developed in the Soviet Union by such researchers as A. M. Svyadoshch in Leningrad and L. A. Bliznitchenko in Kiev, sleep-learning or hypnopedia was intended to be used in conjunction with regular daytime classes in such academic subjects as foreign languages.[3] During the hypnopedic session, students in groups of twelve or so would hear, repeated over and over, elements such as paired associates of foreign language vocabulary that they had already studied in class; in the U. S.S. R., hypnopedia or sleep-learning has been used for the learning (or rather the "overlearning") of "familiar" material. In addition to hearing the material repeated over and

over during a period of some thirty to fifty minutes at night just before falling into a deep sleep and for some thirty minutes in the morning just before fully awakening, students in hypnopedic experiments were required to listen, read, listen again and loudly repeat the appropriate sleep-learning program in a fully awake state, before the lights were turned out.

In its original form, Suggestopedia comprised a special three-part class for foreign language teaching: 1) conversational review of previously learned material; 2) presentation of new material, with accompanying grammar and translation; 3) a séance or session which provided for unconscious assimilation of the lesson material.[4] Originally based on two forms of yoga concentration (outer/inner), the séance was divided into two parts: active and passive, with active or outward concentration on the material preceding the rest and relaxation of passive meditation on the text. During the active session, when the teacher read the text with three different intonations, the students looked at the dialogue on the printed page and repeated to themselves, using the technique of "inner speech," the difficult words and phrases. During the passive session, when the teacher read the text in a soft, soothing voice over a background of slow movements from baroque concerti grossi, the students, with eyes closed and in a relaxed posture (i.e., the alternate Savasana pose), meditated on, or paid indirect attention to the material. Like Soviet hypnopedia, Suggestopedia incorporates a special "session" into what might be

termed a conventional language class. Both Suggestopedia and Soviet sleep-learning make use of a two-part session for memorization of previously studied materials: active concentration on the text in a state of relaxed alertness; passive absorption of the text in a state of light sleep or in a state bordering on sleep.

Both the hypnopedic and suggestopedic sessions are to be used for the rote memorization of basic factual materials. While the original suggestopedic session was utilized for the "reinforcement" of language dialogues which had a narrative or anecdotal content, hypnopedic sessions are normally confined to the memorization of words or short phrases; narrative passages, stories, discussions and the like are considered to be unsuitable for hypnopedic recordings.[5] Reasoning, an essential faculty in learning, cannot be taught by either Suggestopedia or hypnopedia.

In their presentation of language material, both Suggestopedia and Soviet sleep-learning use the principle of paired associates. A typical hypnopedic lesson contains between twenty to fifty paired associates or information units, each one expressing an explicit fact within the context of a given subject. In the case of foreign languages, the usual items to be found in sleep-learning lessons are foreign language vocabulary. A specimen lesson on "driving in French" might contain the following items:

1. The motor car	L'automobile
2. The motor bus	L'autobus
3. The taxi (cab)	Le taxi
4. The motorist	L'automobiliste
5. The chassis	Le châssis
6. The body	La carrosserie

A sample lesson of forty German verbs might commence as follows:

1. To eat	Essen
2. To smoke	Rauchen
3. To think	Denken
4. To speak	Sprechen
5. To tell	Sagen
6. To play	Spielen

As in the above lists, hypnopedic lessons first present the translation in the mother tongue and then the word or expression in the foreign language.[6]

At the Institute of Suggestology, Lozanov and his colleagues began their suggestopedic experiments by measuring the memorization of lists of foreign language vocabulary items. However, in the manuals developed by Aleko Novakov in the late 1960's and early 1970's, entire dialogues in the foreign language were presented for memorization. However, the principle followed in the Novakov manuals was that of short information units in the form of paired associates:

Quoi de neuf, M. Legrand?	What's new, Mr. Legrand?
J'ai un nouvel appartement,	I have a new apartment,
Madame.	Madam.
Il est grand?	Is it large?

The suggestopedic dialogues were originally arranged on the page in groups of three, with five groups of three phrases or sentences to a page. The translation of each word-group was provided in a column at the right of the page. In contrast to Soviet hypnopedia, the foreign language words and phrases were presented in the left-hand column because, according to an oral report on the Institute's experiments, this positioning favored memorization; it is on the left-hand side of the page that one usually finds such important items as newspaper editorials.

Hypnopedic lessons are kept relatively short--three to six minutes--as the same lesson is repeated some ten to twelve times during the relatively limited duration of hypnopedic sessions in order to "fix" the contents of the material in the memory. Suggestopedia does not involve (or perhaps necessitate) as much repetition but nonetheless it does use repetition as one of a number of aids to memorization.

Both Suggestopedia and Soviet sleep-learning utilize rhythmic presentation of material. According to Lozanov, "the rhythmically correct intonational presentation of a program ensures a high degree of durable memorization."[7] The training material for a given hypnopedic lesson unit contains paired associates or short phrases which have to be presented

rhythmically when they are recorded. The average recording time of a given hypnopedic information unit can vary between three and six seconds; the paired associates must be separated from each other by a pause of approximately five seconds; the items within a given paired associate should also be divided by an inter-pair pause of one to one and one-half seconds.

Hypnopedic Information Unit		Total Time taken
Telephone		
(1-1 1/2 seconds pause)	Fernsprecher	2 1/2 seconds
		5-second pause
Is it you?		
(1-1 1/2 seconds pause)	Sind Sie es?	3 1/2 seconds
		5-second pause
What is the name?		
(1-1 1/2 seconds pause)	Wie ist der Name?	4 seconds
		5-second pause

On this basis, one should be able to program approximately seven to eight hypnopedic information units to be recorded in sixty seconds and a hypnopedic lesson of five minutes' duration can contain approximately thirty-five to forty phrases or paired associates.[8]

In the original suggestopedic session, a steady, constant rhythmic pace was maintained throughout. Each word group was read during a time span of eight seconds; three phrases were read in twenty-four seconds. Each page of dialogue involved two minutes and each ten-page dialogue twenty minutes of reading.

(According to experts, twenty minutes is the ideal meditation period in yoga). The students were trained to breathe deeply and rhythmically as a group to a count of eight that accorded with the teacher's reading of the language material and/or with the beat of the baroque slow movements in the background.

During the first, or "active" part of the suggestopedic session, the teacher read the language materials in the following order and with the following timing: translation (in the native language): two seconds; foreign language phrase: four seconds; pause: two seconds. This rhythm accorded with the students' breathing cycle: two seconds' inhalation; four seconds' breath retention; two seconds' exhalation. The slow movements used in the original concert, or "passive" part of the suggestopedic session, were excerpted from the concerti grossi of Corelli, Handel, Vivaldi, Bach and Telemann and have, by definition, a rhythm of sixty beats to the minute (MM 60), the ideal beat for meditation in Indian music. Assuming that the slow movement is in 4/4 time, there would be four quarter notes, or equivalent, to the bar. Since, with a metronome speed of sixty, each quarter note has the value of one second, each bar in 4/4 time would make up four seconds--i.e., enough time for the reading of the foreign language phrase, on the one hand, or a pause and the reading of a translation, on the other.

Both Suggestopedia and Soviet sleep-learning emphasize the importance of intonation as well as rhythm in the presentation of the material for memorization. Intonation has been an essential component of Soviet hypnopedia as developed by Bliznitchenko. As previously stated, Lozanov believes that the rhythmically correct intonational presentation of the suggestopedic program ensures the memorization of this program.

According to Bliznitchenko, the perception of verbal signals in a state of drowsiness and/or light sleep is a slow process compared with the perception of speech in the fully alert and awake state.[9] The decrease of cortical vigilance during the hypnopedic session warrants slowing down the tempo of hypnopedic speech. The slower speaking rhythm of hypnopedic texts (some ten to twenty percent slower than normal speech) is one of the elements that has to be considered in their intonation.

In hypnopedic intonation, there is an absence of any abrupt acceleration or deceleration in the tempo of delivery--rhythmic variations which, in ordinary speech, would be important for conveying the meaning of what is being said. Bliznitchenko notes that, in hypnopedic speech, physiological pauses occur more frequently than in ordinary speech. The absence of overfalls in basic tonal frequency and intensity of utterance is conducive to sleep. The steepness of the stimulus wave, its abruptness and inconsistency are, by contrast, stimulating or "irritating" factors.

It was Bliznitchenko who proposed the elimination of "strong stimulatory elements" in the intonation of hypnopedic speech by the filtering out of the high-frequency components. Broken intermittent sounds have an extremely arousing influence and are, moreover, unpleasant. Such sounds are more tiring than monotonous and continuous sounds. By the same token, a loud sound, with an oscillation of large amplitude, and a high sound, with more frequent oscillations, constitute relatively strong stimuli. Any abrupt transition of sound from faint to loud and from low to high has an arousal effect. However, while a rising interval is a strong stimulus, a falling interval is relatively weaker, with a possible calming effect. According to Bliznitchenko's observations, a falling interval has a tranquillizing influence which does not awaken or arouse the students.

In the intonation of hypnopedic texts, an even frequency level should be maintained. The intonation should be clear and audible; the voice should be pleasant but also neutral or impersonal, even monoconous. Through repetition of the same items, the voice may become softer, to the level of whispering. The frequency range of hypnopedic speech is relatively narrow whereas it is considerably wider in ordinary "unemotional" speech. The intonation of hypnopedic speech is characterized by a frequency band of 120-200 Hz. for both male and female voices.

From oral reports received, it would appear that no special voice training was carried out at the Institute of Suggestology; according to informants, the teachers engaged naturally possessed the necessary voice quality. Intonation, however, was considered to be a very important element in the original suggestopedic language class and particularly in the original suggestopedic séance for unconscious assimilation of the lesson material(s). During the active session, the three phrases or sentences of each group were presented together, each with a different intonation or voice level:

Je vous présente ma mère et mon père,	declarative
Ma grand-mère et mon grand-père,	whisper
Ma soeur cadette et mon frère Paul.	loud command

The three intonations (declarative, whisper, loud command) correspond to three forms of yoga suggestion and were considered to have a positive therapeutic effect as well as a positive impact on memorization. During the passive or concert session, the teacher acted out the lesson dialogue with an emotional or artistic intonation over a background of baroque slow movements. (During both parts of the original séance, the translations in the native language were read in a monotone--a neutral tone of voice). According to books on music therapy, the association of music with a soft and soothing voice brings about a state of profound relaxation in the subject.[10]

The time period allotted to the hypnopedic session is lengthier than that allotted to the suggestopedic séance:

forty to fifty minutes at night plus thirty minutes in the morning for hypnopedia versus forty to forty-five minutes at the end of the class for Suggestopedia. However, the formats of the hypnopedic and suggestopedic sessions show a number of parallels.

As outlined by F. Rubin in Learning and Sleep,[11] the Soviet sleep-learning session has the following pattern:

Pre-Sleep Introductory Lesson: Students listen to the audio-program in bed while they are still fully awake (first trial) and then they read, listen and loudly repeat the audio-program after the instructor (second trial). This procedure lasts approximately ten minutes.

Repetition of Lessons while Falling Asleep: Students fall asleep in their dormitories while the program is being transmitted with gradually decreasing volume. The phonation of the training or lesson material continues for another forty to fifty minutes.

Pre-Awakening Lesson: In the morning, twenty to thirty minutes before the students are expected to awaken and arise, the audio-program is transmitted again with gradually increasing volume.

Time	Sequence of Events
21:45	Beginning of the pre-sleep introductory lesson. The broadcasting of the audio-program begins on a loud speech volume of forty-five decibels.

Time	Sequence of Events
22:00	Lights out. Termination of the pre-sleep introductory lesson.
22:05	Beginning of the repetitious broadcast of the audio-program; the volume is decreased to a quiet speech level alternating between twenty and thirty decibels.
22:25 -22:50	Sleep affected by auditory stimulation. There is a further decrease of the volume by ten decibels; the volume alternates between ten and twenty decibels.
22:50	Termination of the audio-program.
23:00 -6:15	Sleep without the effects of auditory stimulation.
6:15	Beginning of the second broadcast of the evening lesson at a low volume alternating between ten and twenty decibels.
6:25	Increase of the volume by ten decibels; the volume alternates between twenty and thirty decibels.
6:35	A further increase of the volume to forty or forty-five decibels.
6:45	Lights on. Termination of the second audio-program.
6:50 -7:00	Wake up. Students get up and get dressed.

The active and passive parts of the original suggestopedic séance may be said to correspond to the "Pre-Sleep Introductory Lesson" and the "Repetition of Lessons while Falling Asleep" respectively. During the original active session, the students

concentrated their attention on the text while the teacher read the phrases with three different intonations. During the passive or concert session, while the teacher read the text in a soft, soothing voice over a background of baroque slow movements, the students closed their eyes and visualized the text.

The original concert session in Suggestopedia was divided into three parts: 1) a two-minute introduction which served as a "countdown" (the opening Sarabande from Bach's Goldberg Variations played on the harpsichord with a metronome speed of seventy to eighty, the beat of the normal human pulse); 2) a series of slow movements from baroque chamber music over which the teacher acted out the lesson dialogue; 3) a fast, cheerful flute excerpt by Telemann, lasting some two minutes, which brought the students out of their deeply relaxed state. This three-part "concert" corresponds to a three-part session in music therapy: calming down; relaxation; awakening.[12] It also corresponds to the three-part hypnopedic session: pre-sleep introduction; repetition of lessons while falling asleep; "wake-up" lesson in the morning.

Both Soviet sleep-learning and Suggestopedia claim that memory (or memorization of material) is improved by their respective sessions and that, far from suffering any ill effects from learning in a so-called "altered" state of consciousness, students' health actually improves. When combined with positive suggestions for pleasant learning, proper motivation on the part of the students, a special three to five day conditioning

period and regular classes in the appropriate subject, Soviet hypnopedia is said, by its advocates, to improve memorization and performance and to cut down instruction time by one-half. Original statistics quoted for Suggestopedia were that this method speeded up learning five to fifty times. American educators have found that, when used in a positive classroom atmosphere by a good teacher, suggestopedic techniques improve learning by two to three times.[13] According to F. Rubin, the Soviet sleep-learning method utilizes but a short period of paradoxical or light sleep--some sixty to ninety minutes from an average pattern of more than eight hours per night--and does not adversely affect the health of individuals who have no medical problems when they begin the program.[14] It is also claimed by Soviet authors that the adaptation to the requirements of participating in a group course in hypnopedia actually improves sleep, as the student's nocturnal behavior is subjected to a certain disciplinary regime. According to its adherents, Suggestopedia not only improves memorization of lesson materials but also improves students' health. In Bulgaria, the original concert session was found to be particularly effective in this regard. The lyrical and rhythmic music, the artistic and rhythmic rendering of the text by the teacher, the rhythmic deep breathing and meditative state of the students contributed to a marked decrease in fatigue and tension and a marked increase in the memorization (or the absorption) of the appropriate lesson materials.

In light of the similarities between Soviet sleep-learning and Suggestopedia--in particular between the hypnopedic and the suggestopedic sessions for unconscious assimilation of lesson material--it would appear that Dr. Lozanov and his colleagues at the Institute of Suggestology were influenced by Soviet hypnopedia, at least in the early stages of their experiments. Both Soviet sleep-learning and Suggestopedia present lesson material in the form of paired associates and utilize repetition, rhythm and intonation as aids to memorization. Most importantly, both systems are based on the idea that learning (i.e., rote learning) can occur not only in a wide-awake state but also in a state of reduced conscious awareness or indirect attention.

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Notes

[1] Some references to Soviet sleep-learning remain in the official English translation of Lozanov's thesis, Suggestology and Outlines of Suggestopedy (New York: Gordon and Breach, 1978), p. 76; p. 91.

[2] Lozanov, pp. 232-50; F. Rubin, Learning and Sleep: The Theory and Practice of Hypnopaedia (Bristol: John Wright & Sons, 1971), p. 25.

[3] The first scientific research on hypnopedia in the Soviet Union was carried out by A. M. Svyadoshch in the late 1930's. In Kiev, at the Ukraine Academy of Sciences, under the direction of L. A. Bliznitchenko, wide-scale research on hypnopedia commenced in the mid-1960's. Soviet researchers have been particularly interested in the application of hypnopedia to the assimilation of speech and the memorization of foreign languages. See, in this regard, F. Rubin, ed., Current Research in Hypnopaedia (London: Macdonald & Co., 1968).

[4] See my article, "The Lozanov Language Class," ERIC Documents on Foreign Language Teaching and Linguistics, 1975. 53 pp. ED 108 475.

[5] Rubin, Learning and Sleep, p. 69.

[6] Rubin, Learning and Sleep, pp. 73 ff.

[7] Lozanov, pp. 196-97.

[8] Rubin, Learning and Sleep, pp. 70-71.

[9] Material on the intonation of hypnopedic texts is taken from Rubin, Learning and Sleep, pp. 90-96.

[10] Edith Lecourt, "Actualité et Développement de la Musicothérapie," in Marie-Aimeé Guilhot, Jean Guilhot, Jacques Jost and Edith Lecourt, La Musicothérapie et les Méthodes Nouvelles d'Association des Techniques (Paris: Les Editions E S F, 1979), p. 30.

[11] Learning and Sleep, pp. 86-87.

[12] Jacques Jost, "La Pratique de la Musicothérapie," in Guilhot et al., p. 113.

[13] See my article, "The Lozanov Method and its American Adaptations," The Modern Language Journal, 62 (1978), 169.

[14] Learning and Sleep, p. vii.